Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Canceled)

Claim 2 (Previously presented):

An electric machine according to claim 6, wherein the sensor is a Hall effect sensor.

Claim 3 (Previously presented):

An electric machine according to claim 6, wherein the rotor extends axially beyond the stator core in at least one direction, and wherein the sensor is positioned adjacent an axial surface of the stator core and a radial surface of the rotor.

Claim 4 (Previously presented):

An electric machine according to claim 6, wherein the rotor is a permanent magnet rotor.

Claim 5 (Original):

An electric machine according to claim 4, wherein the rotor includes a solid ferrite cylinder having a bore formed therein to receive at least a portion of the shaft.

Claim 6 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil supported by the stator core;

a rotor assembly having a shaft and a rotor supported by the shaft for rotation with the shaft relative to the stator core, the rotor having a first magnetic pole and a second magnetic pole, the rotor being in magnetic interaction with the stator core;

a single sensor configured to detect magnetic polarities of the rotor as the rotor rotates relative to the sensor and to generate a signal representing the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected, the signal being inverted to form an inverted signal, the signal being utilized to control current through the coil in a first direction when the signal is in the first state and the inverted signal being utilized to control current through the coil in a second direction when the signal is in the second state, the current through the coil resulting in an alternating magnetic field in the stator core; and

wherein at least a portion of the rotor and at least a portion of the shaft are encapsulated in an encapsulation material, and wherein the encapsulation material connects the rotor to the shaft.

Claim 7 (Previously presented):

An electric machine according to claim 6, wherein the stator core defines a rotor opening, wherein at least a portion of the rotor is positioned in the rotor opening, wherein the stator core is formed of a plurality of laminations, and wherein each lamination is formed so the rotor opening forms a tapered air gap between at least a portion of the stator core and a corresponding portion of the rotor.

Claim 8 (Previously presented):

An electric machine according to claim 6, wherein the stator assembly includes a plastic bobbin supported by the stator core, wherein the stator core includes a C-frame portion and an I-bar portion, and wherein the coil is wound around the plastic bobbin.

Claim 9 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil supported by the stator core;

a rotor assembly having a shaft and a rotor supported by the shaft for rotation with the shaft relative to the stator core, the rotor having a first magnetic pole and a second magnetic pole, the rotor being in magnetic interaction with the stator core;

a single sensor configured to detect magnetic polarities of the rotor as the rotor rotates relative to the sensor and to generate a signal representing the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected, the signal being inverted to form an inverted signal, the signal being utilized to control current through the coil in a first direction when the signal is in the first state and the inverted signal being utilized to control current through the coil in a second direction when the signal is in the second state, the current through the coil resulting in an alternating magnetic field in the stator core; and

wherein the stator assembly includes a plastic bobbin supported by the stator core, wherein the stator core includes a C-frame portion and an I-bar portion, wherein the coil is wound around the plastic bobbin, and wherein the I-bar portion is formed of grain-oriented electric steel.

Claim 10 (Original):

An electric machine according to claim 9, wherein the C-frame portion is formed of non-grain-oriented electric steel.

Claim 11 (Previously presented):

An electric machine according to claim 6, and further comprising a circuit board, wherein the sensor is mounted on the circuit board, and wherein the circuit board is at least partially encapsulated such that the position of the sensor is fixed relative to the circuit board.

Claim 12 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil supported by the stator core;

a rotor assembly having a shaft and a rotor supported by the shaft for rotation with the shaft relative to the stator core, the rotor having a first magnetic pole and a second magnetic pole, the rotor being in magnetic interaction with the stator core;

a single sensor configured to detect magnetic polarities of the rotor as the rotor rotates relative to the sensor and to generate a signal representing the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected, the signal being inverted to form an inverted signal, the signal being utilized to control current through the coil in a first direction when the signal is in the first state and the inverted signal being utilized to control current through the coil in a second direction when the signal is in the second state, the current through the coil resulting in an alternating magnetic field in the stator core;

a circuit board;

wherein the sensor is mounted on the circuit board, wherein the circuit board is at least partially encapsulated such that the position of the sensor is fixed relative to the circuit board; and

wherein the rotor assembly further includes first and second bearings secured to the shaft on opposite sides of the rotor, and further comprising a first bearing housing that receives the first bearing and a second bearing housing that receives the second bearing, wherein the second bearing housing includes a pocket that receives a portion of the encapsulated sensor, and wherein the pocket locates the sensor relative to the rotor.

Claim 13 (Original):

An electric machine according to claim 11, wherein the sensor is entirely encapsulated.

Claim 14 (Previously presented):

An electric machine according to claim 6, wherein utilizing the signal to control current through the coil in a first direction includes utilizing the signal to control voltage applied to the coil to produce current through the coil in the first direction, and wherein utilizing the inverted signal to control current through the coil in a second direction includes utilizing the inverted signal to control voltage applied to the coil to produce current through the coil in the second direction.

Claim 15 (Canceled)

Claim 16 (Previously presented):

An electric machine according to claim 22, wherein the control circuit includes a buffer gate, and wherein the buffer gate receives an input representative of the signal and generates a buffered signal that is isolated from the signal.

Claim 17 (Previously presented):

An electric machine according to claim 22, wherein the switching circuit includes a bridge circuit having first and second pairs of switching elements, each pair of switching elements having a conducting state and a non-conducting state, wherein the first pair of switching elements can be in a conducting state to allow the current through the coil in the first direction when the signal is in the first state, wherein the second pair of switching elements is in a non-conducting state when the signal is in the first state, wherein the second pair of switching elements can be in a conducting state to allow the current through the coil in the second direction when the signal is in the second state, and wherein the first pair of switching elements is in a non-conductive state when the signal is in the second state.

Claim 18 (Original):

An electric machine according to claim 17, wherein the first pair of switching elements are in a conducting state to allow current through the coil in the first direction when the signal is in the first state unless an override condition exists, and wherein the second pair of switching elements are in a conducting state to allow current through the coil in the second direction when the signal is in the second state unless the override condition exists.

Claim 19 (Original):

An electric machine according to claim 18, wherein the override condition exists when the current through the coil exceeds a predetermined value.

Claim 20 (Original):

An electric machine according to claim 18, wherein the control circuit further includes a voltage regulator to generate a direct current rail voltage, and wherein the override condition exists when the rail voltage is below a predetermined value.

Claim 21 (Original):

An electric machine according to claim 17, wherein the control circuit further includes a delay circuit, wherein the delay circuit receives an input representative of the signal and generates a delayed signal that is delayed relative to the signal, and wherein the delayed signal is utilized to control operation of the switching circuit such that the first and second pairs of switching elements are prevented from each being simultaneously in a conducting state.

Claim 22 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil assembly supported by the stator core, the stator core defining a rotor opening, the coil assembly including a bobbin and a coil wound on the bobbin;

a rotor assembly having a shaft and a permanent magnet rotor supported by the shaft, the rotor rotating with the shaft relative to the stator core, having a first magnetic pole and a second magnetic pole, being at least partially positioned in the rotor opening, and being in magnetic interaction with the stator core;

a control circuit configured to receive power from a power supply and control a current through the coil, the current creating an alternating magnetic field in the stator core, the control circuit including

a single Hall device detecting magnetic polarities of the rotor as the rotor rotates relative to the Hall device and generating a signal representative of the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected,

an inverter inverting the signal to generate an inverted signal, and

a switching circuit being connected to the coil and receiving an input representative of the signal and an input representative of the inverted signal, the input representative of the signal being utilized to control operation of the switching circuit to allow the current through the coil in a first direction when the signal is in the first state, and the input representative of the inverted signal being utilized to control operation of the switching circuit to allow the current through the coil in a second direction when the signal is in the second state; and

wherein the control circuit further includes a current limit circuit that monitors the current through the coil in each of the first and second directions and generates a current signal representative of a monitored current through the coil, wherein the current signal is utilized to allow the current through the coil when a value of the monitored current is in a predefined range and limit current through the coil when a value of the monitored current is above the predefined range.

Claim 23 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil assembly supported by the stator core, the stator core defining a rotor opening, the coil assembly including a bobbin and a coil wound on the bobbin;

a rotor assembly having a shaft and a permanent magnet rotor supported by the shaft, the rotor rotating with the shaft relative to the stator core, having a first magnetic pole and a second magnetic pole, being at least partially positioned in the rotor opening, and being in magnetic interaction with the stator core;

a control circuit configured to receive power from a power supply and control a current through the coil, the current creating an alternating magnetic field in the stator core, the control circuit including

a single Hall device detecting magnetic polarities of the rotor as the rotor rotates relative to the Hall device and generating a signal representative of the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected,

an inverter inverting the signal to generate an inverted signal, and

a switching circuit being connected to the coil and receiving an input representative of the signal and an input representative of the inverted signal, the input representative of the signal being utilized to control operation of the switching circuit to allow the current through the coil in a first direction when the signal is in the first state, and the input representative of the inverted signal being utilized to control operation of the switching circuit to allow the current through the coil in a second direction when the signal is in the second state; and

wherein the control circuit generates a direct current rail voltage, wherein the control circuit further includes a voltage detection circuit that monitors the rail voltage and generates a voltage signal representative of a monitored rail voltage, and wherein the voltage signal is utilized to allow current through the coil when a value of the monitored rail voltage is in a predefined range and limit current through the coil when a value of the monitored rail voltage is below the predefined range.

Calim 24 (Previously presented):

An electric machine according to claim 22, wherein the control circuit further includes a first AND gate, wherein the first AND gate receives an input representative of the signal and generates a first output, and wherein the first output is utilized to control operation of the switching circuit.

Claim 25 (Original):

An electric machine according to claim 24, wherein the control circuit further includes an inverter and a second AND gate, wherein the inverter receives an input representative of the signal and generates an inverted signal, wherein the second AND gate receives an input representative of the inverted signal and generates a second output, and wherein the second output is utilized to control operation of the switching circuit.

Claim 26 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil assembly supported by the stator core, the stator core defining a rotor opening, the coil assembly including a bobbin and a coil wound on the bobbin;

a rotor assembly having a shaft and a permanent magnet rotor supported by the shaft, the rotor rotating with the shaft relative to the stator core, having a first magnetic pole and a second magnetic pole, being at least partially positioned in the rotor opening, and being in magnetic interaction with the stator core;

a control circuit configured to receive power from a power supply and control a current through the coil, the current creating an alternating magnetic field in the stator core, the control circuit including

a single Hall device detecting magnetic polarities of the rotor as the rotor rotates relative to the Hall device and generating a signal representative of the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected,

an inverter inverting the signal to generate an inverted signal, and

a switching circuit being connected to the coil and receiving an input representative of the signal and an input representative of the inverted signal, the input representative of the signal being utilized to control operation of the switching circuit to allow the current through the coil in a first direction when the signal is in the first state, and the input representative of the inverted signal being utilized to control operation of the switching circuit to allow the current through the coil in a second direction when the signal is in the second state;

wherein the control circuit further includes an inverter and a second AND gate, wherein the inverter receives an input representative of the signal and generates an inverted signal, wherein the second AND gate receives an input representative of the inverted signal and generates a second output, and wherein the second output is utilized to control operation of the switching circuit; and

wherein the control circuit further includes a condition monitoring circuit, wherein the condition monitoring circuit receives an input representative of the current through the coil, receives an input representative of a direct current rail voltage, and generates a third output, wherein the first and second AND gates each also receive an input representative of the third output and utilize the input representative of the third output when generating the first and second outputs, respectively.

Claim 27 (Original):

An electric machine according to claim 26, wherein the third output is in a third state when each of the input representative of the current through the coil and the input representative of a direct current rail voltage are in an acceptable range, and wherein the third output is in a fourth state when at least one of the input representative of the current through the coil and the input representative of a direct current rail voltage is outside the acceptable range, and wherein the third output is utilized to limit current through the coil when the third output is in the fourth state.

Claim 28 (Previously presented):

An electric machine according to claim 22, wherein utilizing the input representative of the signal to control operation of the switching circuit to allow the current through the coil in a first direction includes utilizing the input representative of the signal to control operation of the switching circuit to apply voltage to the coil to produce current through the coil in the first direction, and wherein utilizing the input representative of the inverted signal to control operation of the switching circuit to allow the current through the coil in a second direction includes utilizing the input representative of the inverted signal to control operation of the switching circuit to apply voltage to the coil to produce current through the coil in the second direction.

Claim 29 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil supported by the stator core;

a rotor assembly having a shaft and a rotor supported by the shaft for rotation with the shaft relative to the stator core, the rotor having a first magnetic pole and a second magnetic pole, the rotor being in magnetic interaction with the stator core;

a single sensor configured to detect magnetic polarities of the rotor as the rotor rotates relative to the sensor and to generate a signal representing the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected, the signal being inverted to form an inverted signal, the signal being utilized to control current through the coil in a first direction when the signal is in the first state and the inverted signal being utilized to control current through the coil in a second direction when the signal is in the second state, the current through the coil resulting in an alternating magnetic field in the stator core; and

wherein the stator core defines a first bore, wherein the rotor assembly further comprises first and second bearings secured to the shaft on opposite sides of the rotor, and wherein the electrical machine further comprises

a first bearing housing that receives the first bearing and defines a second bore which aligns with the first bore;

a second bearing housing that receives the second bearing and defines a third bore which aligns with the first and second bores;

a first fastener received in the second, first, and third bores to secure the first and second bearing housings to the stator assembly with the first and second bearings received at least partially within the first and second bearing housings, respectively;

a circuit board; and

a second fastener that secures the circuit board to the second bearing housing, the second fastener being spaced from the first fastener.

Claim 30 (Original):

An electric machine according to claim 29, wherein the first fastener is a threaded fastener, and wherein the third bore receives an end portion of the threaded fastener.

Claim 31 (Original):

An electric machine according to claim 29, wherein the second fastener is a push nut.

Claim 32 (Original):

An electric machine according to claim 29, wherein the second fastener is a threaded fastener.

Claim 33 (Original):

An electric machine according to claim 29, wherein the second bearing housing defines a projection, wherein the circuit board defines a fourth bore which aligns with the projection, and wherein the second fastener engages the projection to secure the circuit board to the second bearing housing.

Claim 34 (Original):

An electric machine according to claim 33, wherein a portion of the projection extends through the fourth bore, and wherein the second fastener engages the portion of the projection that extends through the fourth bore to secure the circuit board to the second bearing housing.

Claim 35 (Original):

An electric machine according to claim 33, wherein the projection is a pin cast on the second bearing bracket.

Claim 36 (Currently amended):

An electric machine according to ~~claim 33~~ claim 35, wherein the pin aligns with the first, second, and third bores.

Claim 37 (Original):

An electric machine according to claim 29, wherein the second bearing housing defines a fourth bore, and wherein the fourth bore receives an end portion of the second fastener to secure the circuit board to the second bearing housing.

Claim 38 (Original):

An electric machine according to claim 37, wherein the circuit board defines a fifth bore which aligns with the fourth bore, and wherein the second fastener extends through the fifth bore to secure the circuit board to the second bearing housing.

Claim 39 (Original):

An electric machine according to claim 38, wherein the fourth bore is a blind bore.

Claim 40 (Original):

An electric machine according to claim 29, wherein the stator assembly includes a plastic bobbin supported by the stator core, wherein the stator core includes a C-frame portion and an I-bar portion, and wherein the coil is wound on the plastic bobbin.

Claim 41 (Original):

An electric machine according to claim 29, wherein the first bore is a through bore, wherein the second bore is a through bore, and wherein the third bore is a blind bore.

Claim 42 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil assembly supported by the stator core, the stator core defining a rotor opening, the coil assembly including a bobbin and a coil wound on the bobbin;

a rotor assembly having a shaft and a permanent magnet rotor supported by the shaft, the rotor rotating with the shaft relative to the stator core, having a first magnetic pole and a second magnetic pole, being at least partially positioned in the rotor opening, and being in magnetic interaction with the stator core;

a control circuit configured to receive power from a power supply and control a current through the coil, the current creating an alternating magnetic field in the stator core, the control circuit including

a single Hall device detecting magnetic polarities of the rotor as the rotor rotates relative to the Hall device and generating a signal representative of the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected,

an inverter inverting the signal to generate an inverted signal, and

a switching circuit being connected to the coil and receiving an input representative of the signal and an input representative of the inverted signal, the input representative of the signal being utilized to control operation of the switching circuit to allow the current through the coil in a first direction when the signal is in the first state, and the input representative of the inverted signal being utilized to control operation of the switching circuit to allow the current through the coil in a second direction when the signal is in the second state; and

wherein the stator core includes a C-frame portion that defines the rotor opening and an I-bar portion that is formed of grain-oriented electric steel.

Claim 43 (Original):

An electric machine according to claim 42, wherein the stator assembly includes a plastic bobbin supported by the stator core, and wherein the coil is wound on the plastic bobbin.

Claim 44 (Original):

An electric machine according to claim 42, wherein the C-frame portion is formed of non-grain-oriented electric steel.

Claim 45 (Original):

An electric machine according to claim 42, wherein the rotor is a permanent magnet rotor.

Claim 46 (Original):

An electric machine according to claim 42, wherein the I-bar portion generally defines a length and a width, and wherein the length of the I-bar portion is oriented substantially along the preferred magnetization direction of the grain-oriented electric steel.

Claim 47 (Previously presented):

An electric machine comprising:

a stator assembly having a stator core and a coil assembly supported by the stator core, the stator core defining a rotor opening, the coil assembly including a bobbin and a coil wound on the bobbin;

a rotor assembly having a shaft and a permanent magnet rotor supported by the shaft, the rotor rotating with the shaft relative to the stator core, having a first magnetic pole and a second magnetic pole, being at least partially positioned in the rotor opening, and being in magnetic interaction with the stator core;

a control circuit configured to receive power from a power supply and control a current through the coil, the current creating an alternating magnetic field in the stator core, the control circuit including

a single Hall device detecting magnetic polarities of the rotor as the rotor rotates relative to the Hall device and generating a signal representative of the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected,

an inverter inverting the signal to generate an inverted signal, and

a switching circuit being connected to the coil and receiving an input representative of the signal and an input representative of the inverted signal, the input representative of the signal being utilized to control operation of the switching circuit to allow the current through the coil in a first direction when the signal is in the first state, and the input representative of the inverted signal being utilized to control operation of the switching circuit to allow the current through the coil in a second direction when the signal is in the second state; and

wherein at least a portion of the rotor and at least a portion of the shaft are encapsulated in an encapsulation material that connects the rotor to the shaft.

Claim 48 (Original):

An electric machine according to claim 47, wherein the encapsulation material is a plastic material.

Claim 49 (Original):

An electric machine according to claim 47, wherein the rotor is fully encapsulated by the encapsulation material.

Claim 50 (Original):

An electric machine according to claim 47, wherein the rotor includes a solid ferrite cylinder having a bore formed therein to receive at least a portion of the shaft.

Claim 51 (Currently amended):

An electric machine comprising:

a stator assembly having a stator core and a coil supported by the stator core;

a rotor assembly having a shaft and a rotor supported by the shaft for rotation with the shaft relative to the stator core, the rotor having a first magnetic pole and a second magnetic pole, the rotor being in magnetic interaction with the stator core;

a single sensor configured to detect magnetic polarities of the rotor as the rotor rotates relative to the sensor and to generate a signal representing the detected magnetic polarities of the rotor, the signal being in a first state when the first magnetic pole is detected and a second state when the second magnetic pole is detected, the signal being inverted to form an inverted signal, the signal being utilized to control current through the coil in a first direction when the signal is in the first state and the inverted signal being utilized to control current through the coil in a second direction when the signal is in the second state, the current through the coil resulting in an alternating magnetic field in the stator core; and

wherein the stator core defines a rotor opening, and wherein the electric machine further comprises

a coil assembly supported by the stator core, the coil assembly including a bobbin and a coil wound on the bobbin;

first and second bearings secured to the shaft on opposite sides of the rotor

~~a sensor configured to detect magnetic polarities of the rotor and to generate a signal representing the detected magnetic polarities of the rotor, the signal being utilized to control a current through the coil;~~

a first bearing housing that receives the first bearing; and

a second bearing housing that receives the second bearing, the second bearing housing defining a pocket that receives a portion of the sensor to locate the sensor relative to the rotor.

Claim 52 (Original):

An electric machine according to claim 51, wherein the pocket is cast in the second bearing housing.

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Claim 53 (Original):

An electric machine according to claim 51, wherein the portion of the sensor received in the pocket is encapsulated.

Claim 54 (Previously presented):

An electric machine according to claim 9, wherein the rotor extends axially beyond the stator core in at least one direction, and wherein the sensor is positioned adjacent an axial surface of the stator core and a radial surface of the rotor.

Claim 55 (Previously presented):

An electric machine according to claim 9, wherein the rotor includes a solid ferrite cylinder having a bore formed therein to receive at least a portion of the shaft.

Claim 56 (Previously presented):

An electric machine according to claim 55 wherein at least a portion of the rotor and at least a portion of the shaft are encapsulated in an encapsulation material, and wherein the encapsulation material connects the rotor to the shaft.

Claim 57 (Previously presented):

An electric machine according to claim 9, wherein the stator core defines a rotor opening, wherein at least a portion of the rotor is positioned in the rotor opening, wherein the stator core is formed of a plurality of laminations, and wherein each lamination is formed so the rotor opening forms a tapered air gap between at least a portion of the stator core and a corresponding portion of the rotor.

Claim 58 (Previously presented):

An electric machine according to claim 9, and further comprising a circuit board, wherein the sensor is mounted on the circuit board, and wherein the circuit board is at least partially encapsulated such that the position of the sensor is fixed relative to the circuit board.

Claim 59 (Previously presented):

An electric machine according to claim 58, wherein the rotor assembly further includes first and second bearings secured to the shaft on opposite sides of the rotor, and further comprising a first bearing housing that receives the first bearing and a second bearing housing that receives the second bearing, wherein the second bearing housing includes a pocket that receives a portion of the encapsulated sensor, and wherein the pocket locates the sensor relative to the rotor.

Claim 60 (Previously presented):

An electric machine according to claim 9, wherein utilizing the signal to control current through the coil in a first direction includes utilizing the signal to control voltage applied to the coil to produce current through the coil in the first direction, and wherein utilizing the inverted signal to control current through the coil in a second direction includes utilizing the inverted signal to control voltage applied to the coil to produce current through the coil in the second direction.

Claim 61 (Previously presented):

An electric machine according to claim 12, wherein the rotor extends axially beyond the stator core in at least one direction, and wherein the sensor is positioned adjacent an axial surface of the stator core and a radial surface of the rotor.

Claim 62 (Previously presented):

An electric machine according to claim 61, wherein the rotor includes a solid ferrite cylinder having a bore formed therein to receive at least a portion of the shaft.

Claim 63 (Previously presented):

An electric machine according to claim 12, wherein at least a portion of the rotor and at least a portion of the shaft are encapsulated in an encapsulation material, and wherein the encapsulation material connects the rotor to the shaft.

Claim 64 (Previously presented):

An electric machine according to claim 12, wherein the stator core defines a rotor opening, wherein at least a portion of the rotor is positioned in the rotor opening, wherein the stator core is formed of a plurality of laminations, and wherein each lamination is formed so the rotor opening forms a tapered air gap between at least a portion of the stator core and a corresponding portion of the rotor.

Claim 65 (Previously presented):

An electric machine according to claim 12, wherein the stator assembly includes a plastic bobbin supported by the stator core, wherein the stator core includes a C-frame portion and an I-bar portion, and wherein the coil is wound around the plastic bobbin.

Claim 66 (Currently amended):

An electric machine according to ~~claim 12~~ <u>claim 65</u>, wherein the I-bar portion is formed of grain-oriented electric steel, and wherein the C-frame portion is formed of non-grain-oriented electric steel.

Claim 67 (Previously presented):

An electric machine according to claim 12, wherein utilizing the signal to control current through the coil in a first direction includes utilizing the signal to control voltage applied to the coil to produce current through the coil in the first direction, and wherein utilizing the inverted signal to control current through the coil in a second direction includes utilizing the inverted signal to control voltage applied to the coil to produce current through the coil in the second direction.

Claim 68 (Previously presented):

An electric machine according to claim 23, wherein the control circuit includes a buffer gate, and wherein the buffer gate receives an input representative of the signal and generates a buffered signal that is isolated from the signal.

Claim 69 (Previously presented):

An electric machine according to claim 23, wherein the switching circuit includes a bridge circuit having first and second pairs of switching elements, each pair of switching elements having a conducting state and a non-conducting state, wherein the first pair of switching elements can be in a conducting state to allow the current through the coil in the first direction when the signal is in the first state, wherein the second pair of switching elements is in a non-conducting state when the signal is in the first state, wherein the second pair of switching elements can be in a conducting state to allow the current through the coil in the second direction when the signal is in the second state, and wherein the first pair of switching elements is in a non-conductive state when the signal is in the second state.

Claim 70 (Previously presented):

An electric machine according to claim 69, wherein the first pair of switching elements are in a conducting state to allow current through the coil in the first direction when the signal is in the first state unless an override condition exists, and wherein the second pair of switching elements are in a conducting state to allow current through the coil in the second direction when the signal is in the second state unless the override condition exists.

Claim 71 (Previously presented):

An electric machine according to claim 70, wherein the override condition exists when the current through the coil exceeds a predetermined value.

Claim 72 (Previously presented):

An electric machine according to claim 70, wherein the control circuit further includes a voltage regulator to generate a direct current rail voltage, and wherein the override condition exists when the rail voltage is below a predetermined value.

Claim 73 (Previously presented):

An electric machine according to claim 69, wherein the control circuit further includes a delay circuit, wherein the delay circuit receives an input representative of the signal and generates a delayed signal that is delayed relative to the signal, and wherein the delayed signal is utilized to control operation of the switching circuit such that the first and second pairs of switching elements are prevented from each being simultaneously in a conducting state.

Claim 74 (Previously presented):

An electric machine according to claim 23, wherein the control circuit further includes a first AND gate, wherein the first AND gate receives an input representative of the signal and generates a first output, and wherein the first output is utilized to control operation of the switching circuit.

Claim 75 (Previously presented):

An electric machine according to claim 74, wherein the control circuit further includes an inverter and a second AND gate, wherein the inverter receives an input representative of the signal and generates an inverted signal, wherein the second AND gate receives an input representative of the inverted signal and generates a second output, and wherein the second output is utilized to control operation of the switching circuit.

Claim 76 (Previously presented):

An electric machine according to claim 23, wherein utilizing the input representative of the signal to control operation of the switching circuit to allow the current through the coil in a first direction includes utilizing the input representative of the signal to control operation of the switching circuit to apply voltage to the coil to produce current through the coil in the first direction, and wherein utilizing the input representative of the inverted signal to control operation of the switching circuit to allow the current through the coil in a second direction includes utilizing the input representative of the inverted signal to control operation of the switching circuit to apply voltage to the coil to produce current through the coil in the second direction.